Exercise 4A – Question 1

S.I on ₹3,500 for 3 years at 12% is:

(a) ₹1,200 (b) ₹1,260 (c) ₹2,260 (d) None

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Excersise 4A - Question 1

P = ₹3500 , T = 3 years R = 12% :

S.I = ?

$$S.I = \frac{PRT}{100}$$

$$S.I = \frac{3500 \times 12 \times 3}{100}$$

S.I = 1260/-

Exercise 4A – Question 2

P = 5,000, R = 15, T = 4½. Using I = PRT/100, I will be:

(a) ₹3,375 (b) ₹3,300 (c) ₹3,735 (d) None

Ex 4A - Q2:

$P = 5,000$, $R = 15\%$ $T = 4\frac{1}{2}$ (4 × 2 + 1) $= \frac{4 \times 2 + 1}{2} = \frac{9}{2} = 4.5$

$S.I = ?$

$$S.I = \frac{PRT}{100}$$

$$S.I = \frac{5000 \times 15 \times 4.5}{100}$$

$$S.I = 3375/-$$

Exercise 4A – Question 4

If P = ₹4,500, A = ₹7,200, then Simple interest, i.e. I will be:

(a) ₹2,000 (b) ₹3,000 (c) ₹2,500 (d) 2,700

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Ex 4A - Question 4.

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$P = 4,500 \quad A = 7,200 \quad S.I = ?$

$A = P + S.I$

$S.I = A - P$

$= 7200 - 4500$

$S.I = 2700/-$

Page 4.4 – Example 1

How much interest will be earned on ₹2,000 at 6% simple interest for 2 years?

(a) ₹240 (b) ₹250 (c) ₹260 (d) ₹270

Page 4.4 – Ex 1

$P = 2000$, $R = 6\%$ $T = 2$ years

$$S.I = \frac{P \times r \times t}{100}$$

$$S.I = \frac{2000 \times 6 \times 2}{100} = ₹240/-$$

Page 4.4 – Example 2

Sania deposited ₹50,000 in a bank for two years with the interest rate of 5.5% p.a. How much interest would she earn?

(a) ₹5,600 (b) ₹5,500 (c) ₹5,700 (d) ₹5,800

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Page 4.4 - Example 2

(8) $P = 50,000$, $T = 2$ years, $R = 5.5\%$

$S.I = ?$

$$S.I = \frac{PRT}{100}$$

$$S.I = \frac{50000 \times 5.5 \times 2}{100}$$

$S.I = ₹5500/-$

Page 4.4 – Example 3

Sania deposited ₹50,000 in a bank for two years with the interest rate of 5.5% p.a. What will be the final value of investment?

(a) ₹55,800 (b) ₹5,500 (c) ₹55,500 (d) ₹5,800

Page 4.4 — Example 3

$P = ₹50,000$ $T = 2$ years $R = 5.5\%$

$A = ?$

$A = P + S.I$

$\hookrightarrow A = P + \frac{(P \times R \times T)}{100}$

$\hookrightarrow A = P\left(1 + \frac{RT}{100}\right)$

$A = 50000\left(1 + \frac{5.5 \times 2}{100}\right)$

$A = 50000\left(1 + \frac{11}{100}\right)$

$A = 50000\,(1.11)$

$A = ₹55,500/-$

Page 4.5 – Example 4

Sachin deposited ₹1,00,000 in his bank for 2 years at simple interest rate of 6%. How much would be the final value of deposit?

(a) ₹1,15,000 (b) ₹1,15,000 (c) ₹1,14,000 (d) ₹1,12,000

Page 4.5 - Example 4

$P = 1,00,000$ $T = 2$ years $R = 6\%$

$A = ?$

$$A = P\left(1 + \frac{RT}{100}\right)$$

$$A = 1,00,000\left(1 + \frac{6 \times 2}{100}\right)$$

$$A = 1,00,000\left(1 + \frac{12}{100}\right)$$

$A = 1,12,000/-$

Page 4.7 – Example 9

What sum of money will produce ₹28,600 as an interest in 3 years and 3 months at 2.5% p.a. simple interest?

(a) ₹3,52,000 (b) ₹3,54,000 (c) ₹3,64,000 (d) None

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Page 4.7 - Ex:9.

Sol:- P = ? S.I = ₹28,600 T = 3 years & 3 months.

R = 2.5% P.a $= 3 + \frac{3}{12} = 3.25$

$$P = \frac{SI \times 100}{R \times T}$$

$$P = \frac{28,600 \times 100}{2.5 \times 3.25}$$

$$P = 352000/-$$

Exercise 4A – Question 8

The sum required to earn a monthly interest of ₹1,200 at 18% p.a. SI is:

(a) ₹50,000 (b) ₹60,000 (c) ₹80,000 (d) None

Ex-4A - Question 8

Sol^{n}:- $P = ?$ $S.I = ₹1200$, $R = 18\%$ $T = 1 \text{ month} = \frac{1}{12}$

$$P = \frac{SI \times 100}{RT}$$

$$P = \frac{1200 \times 100 \times 12}{18 \times 1}$$

$$P = 80,000/=$$

Page 4.6 – Example 7

Kapil deposited some amount in a bank for 7½ years at the rate of 6% p.a. simple interest. Kapil received ₹1,01,500 at the end of the term. Compute initial deposit of Kapil.

(a) ₹70,000 (b) ₹80,000 (c) ₹90,000 (d) ₹1,00,000

Page 4.6 – Ex 7

$A = 1,01,500$, $P = ?$, $T = 7\frac{1}{2}$ years $\rightarrow 7.5$ years

$R = 6\%$

$P = A - S.I$

$S.I = \frac{PRT}{100}$

Or $A = P\left(1 + \frac{RT}{100}\right)$

$S.I = \frac{P \times 6 \times 7.5}{100}$

$S.I = 0.45P$

Now, $P = A - S.I$

$P = 101500 - 0.45P$

$P + 0.45P = 101500$

$1.045P = 101500$

$P = \frac{101500}{1.045} = 70,000/-$

Page 4.6 – Example 8

A sum of ₹46,875 was lent out at simple interest and at the end of 1 year 8 months the total amount was ₹50,000. Find the rate of interest percent per annum.

(a) 7% (b) 6% (c) 4% (d) 5%

Exercise 4A – Question 3

If P = 5,000, T = 1, I = ₹300, R will be

(a) 5% (b) 4% (c) 6% (d) None

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Ex. 4A – Question 3

P = 5000, T = 1 S.I = ₹300, R will be?

$$R = \frac{S.I \times 100}{PT}$$

$$R = \frac{3000}{5000} = 6\%$$

Exercise 4A – Question 5

P = ₹12,000, A = ₹16,500, T = 2½ years. Rate percent p.a. simple interest will be:

(a) 15% (b) 12% (c) 10% (d) None

Ex. 4A — Q5

$P = ₹12000$, $A = ₹16,500$ $T = 2\frac{1}{2} \rightarrow 2.5$ years

$R = ?$

$$R = \frac{S.I \times 100}{PT}$$

$$R = \frac{(A - P) \times 100}{PT}$$

~~$R = \frac{(12000 - 16500) \times 100}{12000 \times 2.5}$~~

$$R = \frac{(16500 - 12000) \times 100}{12000 \times 2.5}$$

$R = 15\%$

Page 4.5 – Example 5

Find the rate of interest if the amount owed after 6 months is ₹1,050, borrowed amount being ₹1,000.

(a) 15% (b) 30% (c) 20% (d) 10%

Page 4.5 - Ex 5

Sol:- $P = ₹1000$ $\quad R = ?$

$A = ₹1050$ $\quad T = 6 \text{ months} = \frac{6}{12}$

$$R = \frac{(A-P) \times 100}{PT}$$

$$R = \frac{(1050-1000) \times 100}{1000 \times \frac{6}{12}}$$

$$R = \underline{10}\%$$

Page 4.6 — Example 8

Sol:- $P = ₹46,875$ $T = 1 \text{ year } 8 \text{ months} = 1 + \frac{8}{12}$

$A = ₹50,000$ $R = ?$

$$R = \frac{(A - P) \times 100}{PT}$$

$$R = \frac{(50000 - 46875) \times 100}{46875 \times (1 + 8/12)}$$

$$R = 4\%$$

Exercise 4A – Question 9

A sum of money amounts to ₹6,200 in 2 years and ₹7,400 in 3 years. The principal and rate of interest are:

(a) ₹3,800, 31.57% (b) ₹3,000, 20% (c) ₹3,500, 15% (d) None

Ex. 4.A – Q9.

Sol^{n} → $A_1 = ₹6200$ $A_2 = ₹7400$

$T = 2$ years $T = 3$ years

$P = ?$

$R = ?$

Interest for 1 year = Amt for 3 years − Amt for 2 years

One year S.I $= A_2 - A_1$

$= 7400 - 6200$

S.I $= ₹1200$

S.I for 2 years $= 1200 \times 2 = 2400$

Now, $P = A - S.I$

$P = 6200 - 2400$

$P = 3800/-$

Now, $R = \frac{S.I \times 100}{PT}$

$R = \frac{240000}{3800 \times 2}$

$R = 31.57\%$

Exercise 4A – Question 6

P = ₹10,000, I = ₹2,500, R = 12½% SI. The number of years T will be:

(a) 1½ years (b) 2 years (c) 3 years (d) None

Ex 4A - Q6

Sol^n = P = 10,000, S.I = 2,500, R = $12\frac{1}{2}\%$ S.I

T = ?

$= 12.5\%$

$$T = \frac{S.I \times 100}{PR}$$

$$T = \frac{250000}{10,000 \times 12.5}$$

$$T = 2 \text{ years}$$

Exercise 4A – Question 7

P = ₹8,500, A = ₹10,200, R = 12½% SI, t will be:

(a) 1 year 7 months (b) 2 years (c) 1½ years (d) None

Ex 4A — Q7

Sol^{n} ⇒ $P = ₹8500$, $A = ₹10,200$, $R = 12\frac{1}{2}\% = 12.5\%$

$T = ?$

$$T = \frac{(A-P)100}{PR}$$

$$T = \frac{(10200-8500)100}{8500 \times 12.5}$$

$T = 1.6$ years.

$0.6 \times 12 = 7.2$ Months

Page 4.6 – Example 6

Rahul invested ₹70,000 in a bank at the rate of 6.5% p.a. simple interest rate. He received ₹85,925 after the end of term. Find out the period for which sum was invested by Rahul.

(a) 2 years (b) 2.5 years (c) 3.5 years (d) None

Page 4.6 — Ex-6

Sol^{n} ⇒ $P = 70,000$ $R = 6.5\%$

$A = 85,925$ $T = ?$

$$T = \frac{(A-P)100}{PR}$$

$$T = \frac{(85,925 - 70,000) \times 100}{70,000 \times 6.5}$$

$$T = 3.5 \text{ years}$$

Page 4.7 – Example 10

In what time will ₹85,000 amount to ₹1,57,675 at 4.5% p.a.?

(a) 20.5 years (b) 19 years (c) 21 years (d) None

Page 4.7 – Example 10

Sol^n: $P = ₹\ 85,000$ $\quad R = 4.5\%$

$A = ₹\ 1,57,675$ $\quad T = ?$

$$T = \frac{(A - P)\,100}{P\,R}$$

$$T = \frac{(1,57,675 - 85,000)\,100}{85,000 \times 4.5}$$

$$T = 19 \text{ years.}$$

Exercise 4A – Question 10

A sum of money doubles itself in 10 years. The number of years it would triple itself is:

(a) 25 years (b) 15 years (c) 20 years (d) None

Ex-4A – Q10

$P = 100$ $T = 10$ years

$A = 200$ $R = ?$

$$R = \frac{(A-P)100}{PT}$$

$$R = \frac{10000}{1000} = 10\%$$

Now, $P = 100$, $T = ?$

$A = 300$ $R = 10\%$

$$T = \frac{(A-P)100}{PR}$$

$$T = \frac{20000}{1000} = 20 \text{ years.}$$